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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,548	08/16/2006	Junji Kurachi	14434.106USWO	8496
52835	7590	02/20/2008	EXAMINER	
HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902			GEORGE, PATRICIA ANN	
ART UNIT	PAPER NUMBER			
			1792	
MAIL DATE		DELIVERY MODE		
02/20/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,548	<b>Applicant(s)</b> KURACHI ET AL.
	<b>Examiner</b> Patricia A. George	<b>Art Unit</b> 1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 15 November 2006.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 11/15/2006 & 8/16/2006
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-4 and 6, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitations "the content of SiO<sub>2</sub>...is 74 mol. % or more" in line 2. Since claim 3 is dependent on claim 1, wherein applicants recite a concentration of 90% or more, the range in claim 3 which is outside that claim is not proper. In claim 1, did applicant intend to claim - - - the content of all oxides is above 90 mol % - - - ?

Claim 4 recites the limitations "the content of Al<sub>2</sub>O<sub>3</sub>" in line 2. There is insufficient antecedent basis for this limitation in the claim because use of AL<sub>2</sub>O<sub>3</sub> has not been established, since it is optional.

Claim 4 recites the limitations "the content of SiO<sub>2</sub> is 70 mol %" in line 3. Since claim 4 is dependent on claim 3, wherein applicants recite a concentration of 74% or more; which is dependent on claim 1, wherein applicants recite a concentration of 90% or more, the range in claim 4 which is outside that claim is not proper. In claim 1, did applicant intend to claim - - - the content of all oxides is above 90 mol % - - - ?

Claim 6 recites the limitations "5 to 20 mol %" in line 3. Since claim 6 is dependent on claim 1, wherein applicants recite a concentration of 90% or more, the

range in claim 6 which is outside that claim is not proper. In claim 1, did applicant intend to claim - - - the content of all oxides is above 90 mol % - - - ?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurachi et al. (JP 2002-160943 A).

Kurachi teaches a method for manufacturing a glass substrate having an uneven surface, the method comprising pressing a predetermined area on the surface of the glass substrate and etching an area including the pressed predetermined area, thereby forming unevenness on a surface (see abstract); wherein the glass substrate has 55 to 72 mol % SiO<sub>2</sub> (see para. 42 DD), 1 to 12.5 mol % Al<sub>2</sub>O<sub>3</sub> (see para. 42 DD), and 2 to 16 mol % BaO (see para. 46), which is written on all the limitations as presented in claims 1-6, and 8-12.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurachi et al. (JP 2002-160943 A), as applied to claims 1-6, and 8-12 above, in view of Takei et al. (JP 2002-201040).

Kurachi fails to teach methods of forming substrate compositions of 90 mol % or more of SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, and B<sub>2</sub>O<sub>3</sub>, as in claim 7.

Takei teaches substrate compositions of 90 mol % or more of SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, and B<sub>2</sub>O<sub>3</sub>, as in claim 7, such as 45 to 78 mol % SiO<sub>2</sub>, 2 to 22 mol % Al<sub>2</sub>O<sub>3</sub>, and 4 to 15 mol % B<sub>2</sub>O<sub>3</sub>. See abstract.

It would have been obvious to one of ordinary skill in the art at the time of invention was made, to modify the invention of forming substrate compositions, as Kurachi, to include applicants' specifically claimed ranges, because Takei teaches such ranges are known and functional as substrate materials, and use of methods known functional are cost saving.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Pubs. JP11-126324 and JP3-95726 both also teach a method for applicants' claimed substrate composition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia A. George whose telephone number is (571) 272-5955. The examiner can normally be reached on Mon. - Fri. between 8:00 am and 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patricia A George

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/Binh X Tran/  
Primary Examiner, Art Unit 1792